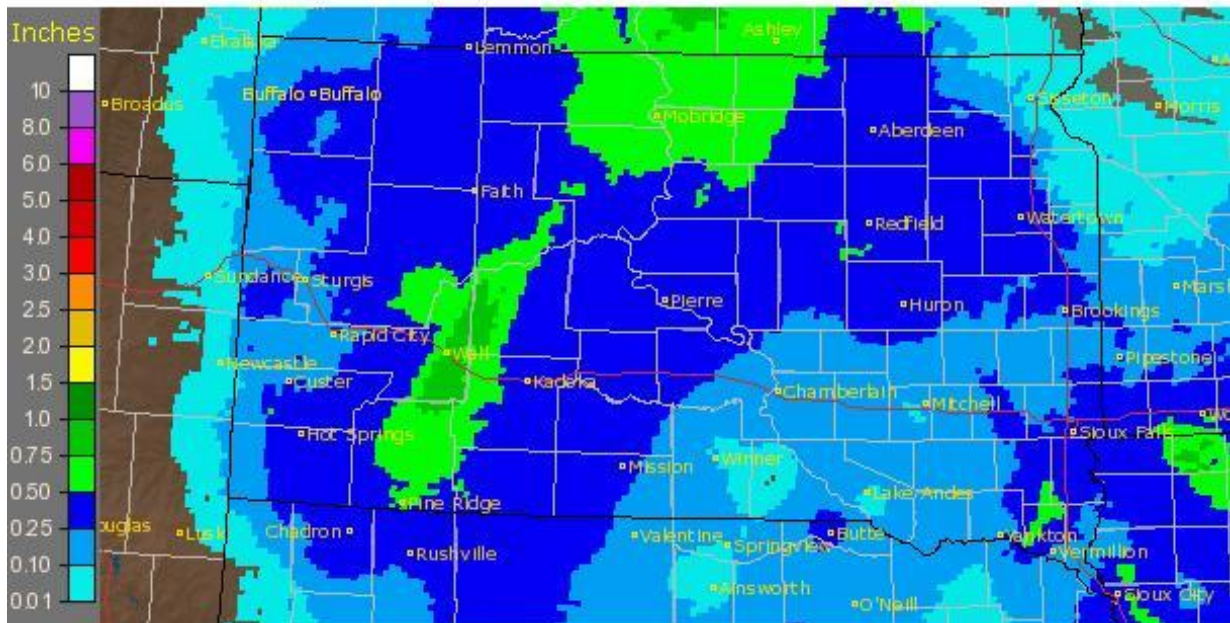


# Hydrology Update/Outlook

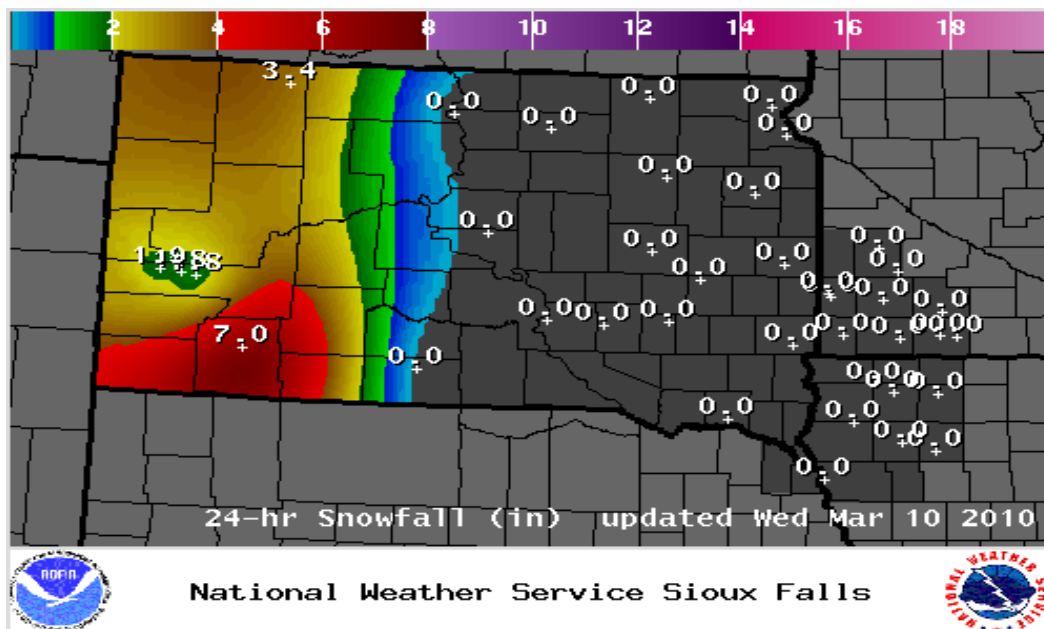
3/10/10, 2:00 pm CST

## RECENT PRECIPITATION

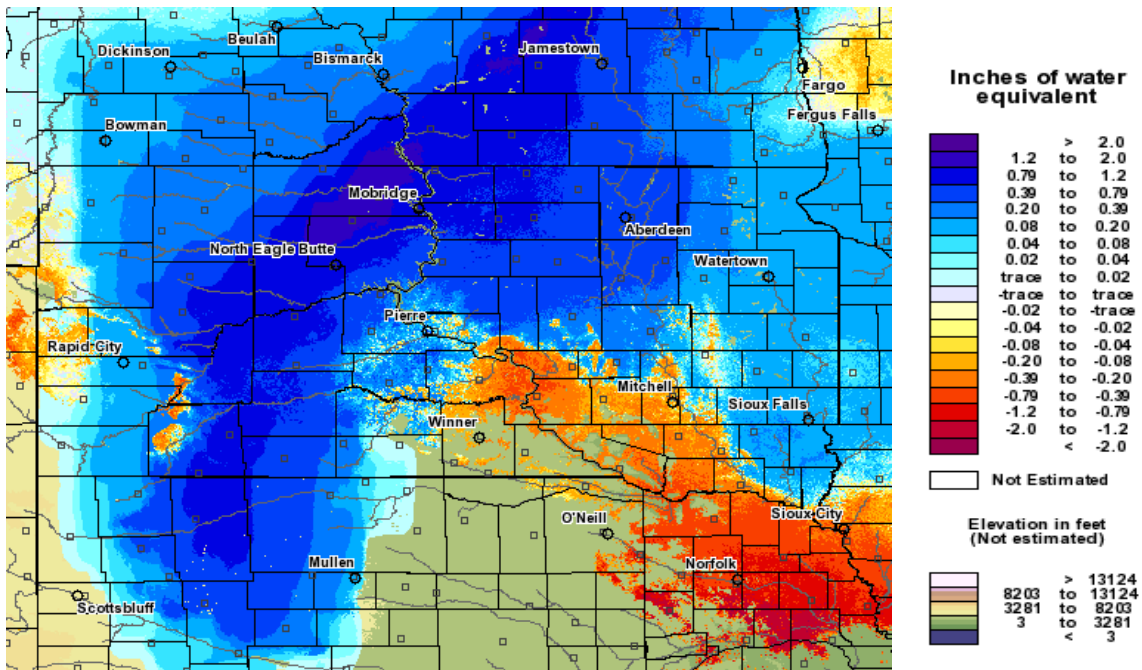
South Dakota: Current 1-Day Observed Precipitation  
Valid at 3/10/2010 1200 UTC- Created 3/10/10 17:41 UTC



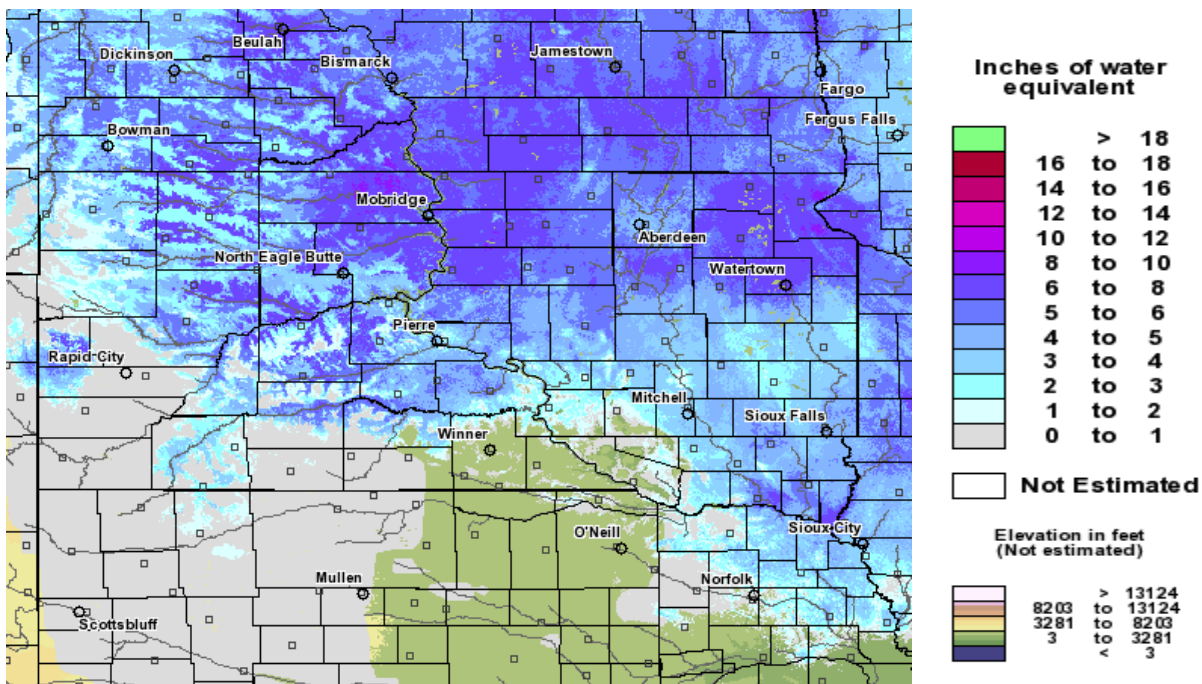
Precipitation totals for the 24 hours ending at 7am CST Wednesday morning show 0.5" to 1.0" for a large section of southwestern through north-central South Dakota as well as most of northwest Iowa, with 0.1" to 0.5" for eastern South Dakota. Most of this fell as rain across the eastern 3/4 of the region, with widespread snowfall in the western 1/4.



## SNOW PACK CHANGES



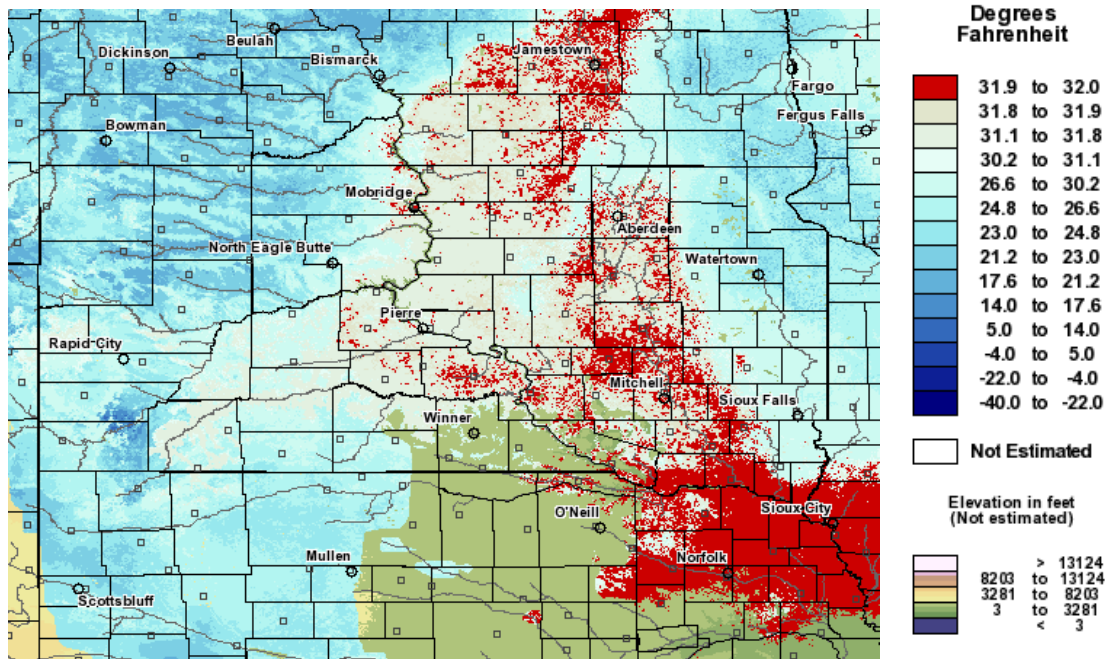
The above image shows the changes to the Snow Water Equivalent across the state from early morning on Tuesday, 3/9 to Wednesday morning, 3/10. The snow models show that the south-central and far southeastern parts of the state continue to lose water out of the snow pack (orange and red colors above). The new snowfall shows up in the blue colors above.



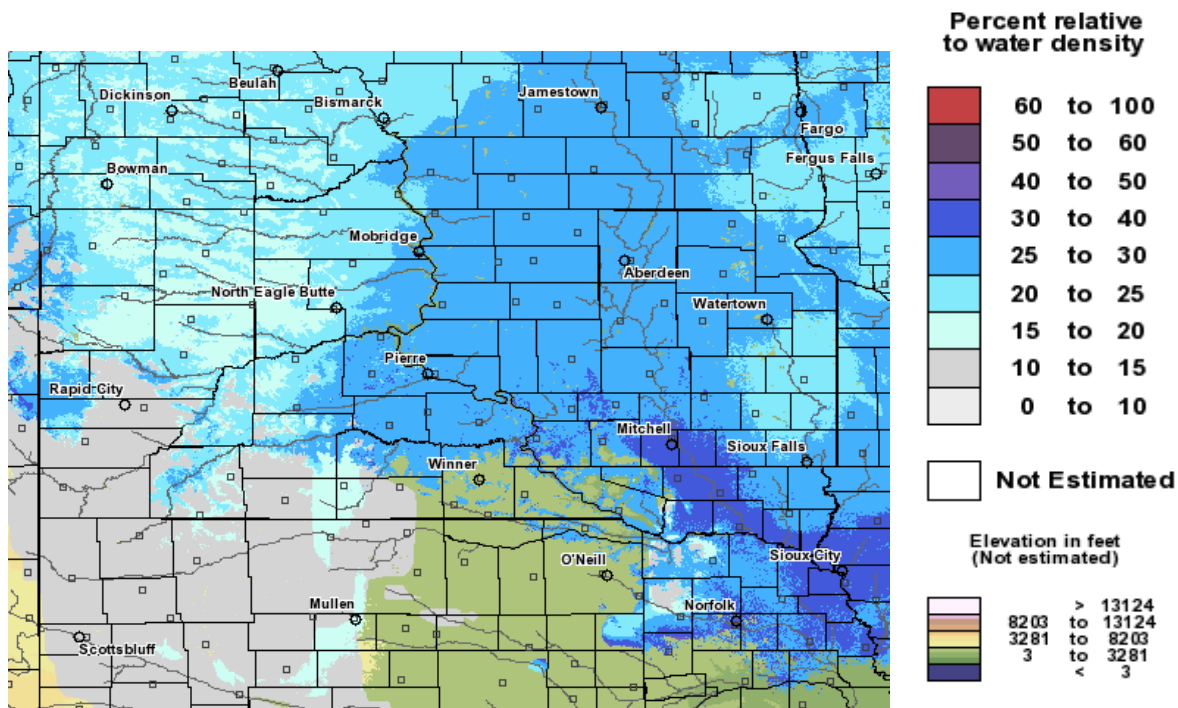
This image shows the modeled/estimated water content remaining in the snow pack across the state. Very little to no runoff has started in the north-central and northeastern parts of the state.



## CURRENT SNOW PACK CONDITIONS



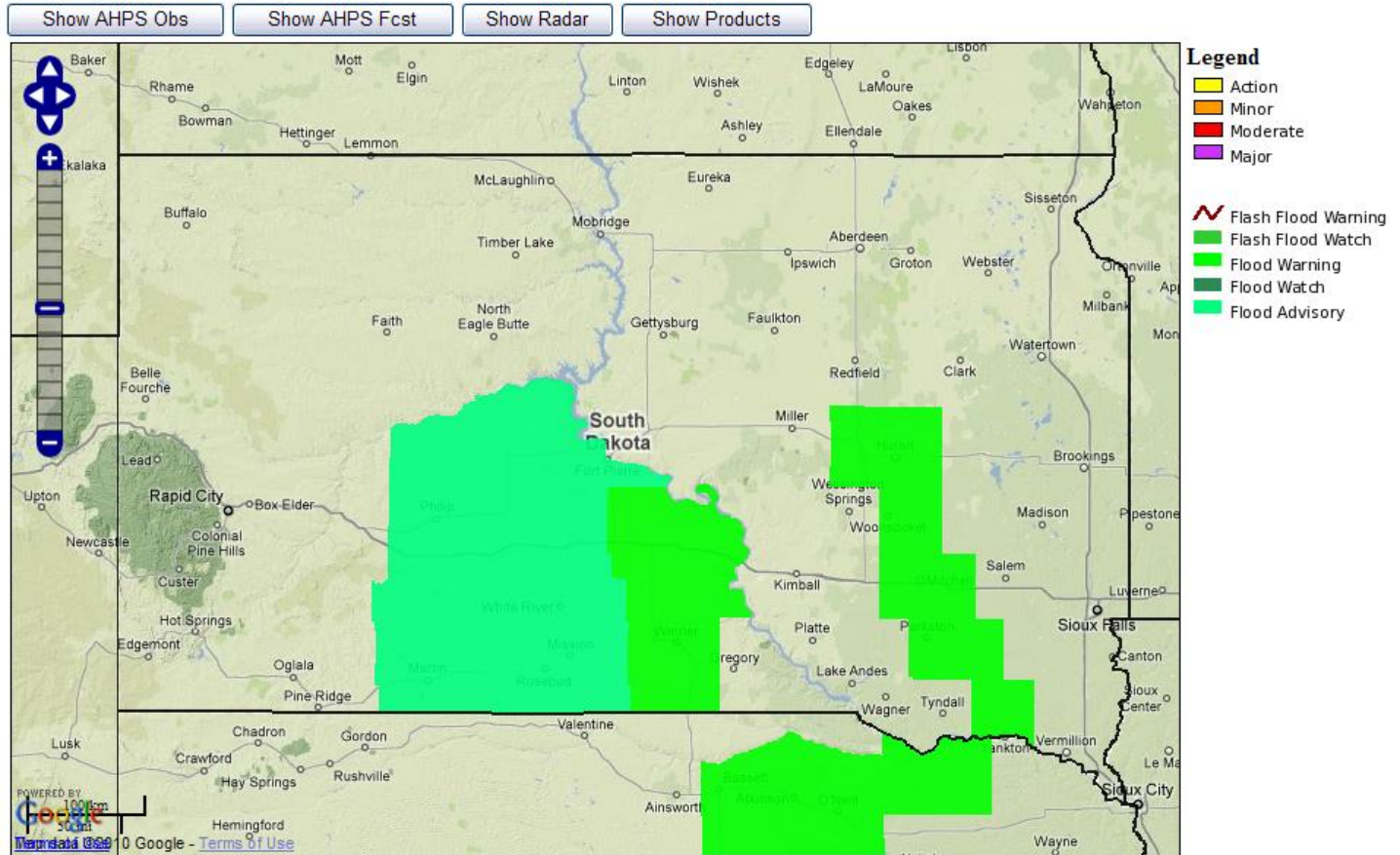
Average temperature of the snow pack is 30+ degrees in the white and red areas above. Note the large area between the James River and Missouri River in north-central SD that has warmed to 30+ degrees. Farther to the east, the snow pack temperatures are still averaging in the mid 20s.



The density of the snowpack has increased to over 25% for all of eastern South Dakota. This, combined with the warming snow pack temperatures shown above, indicate that the middle and upper portions of the James River basin are getting closer to begin seeing more rapid snow melt and runoff.

## CURRENT ACTIVE FLOOD WARNINGS, 1:30 PM CST, Monday, 3/8/10

Last Update: 2010-03-10 19:19:52



Flood Warnings are in effect for the White River along the Lyman/Tripp county line, and for the James River from Beadle County downstream. A flood advisory is also in effect for several counties in south-central South Dakota for snow melt and potential ice jams.

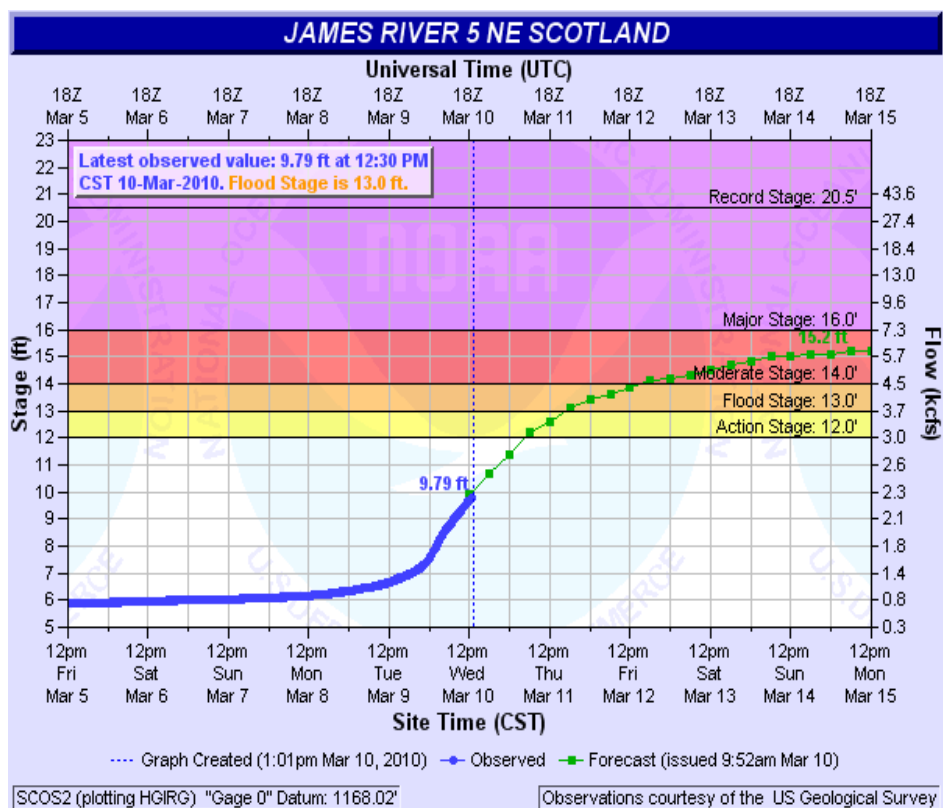
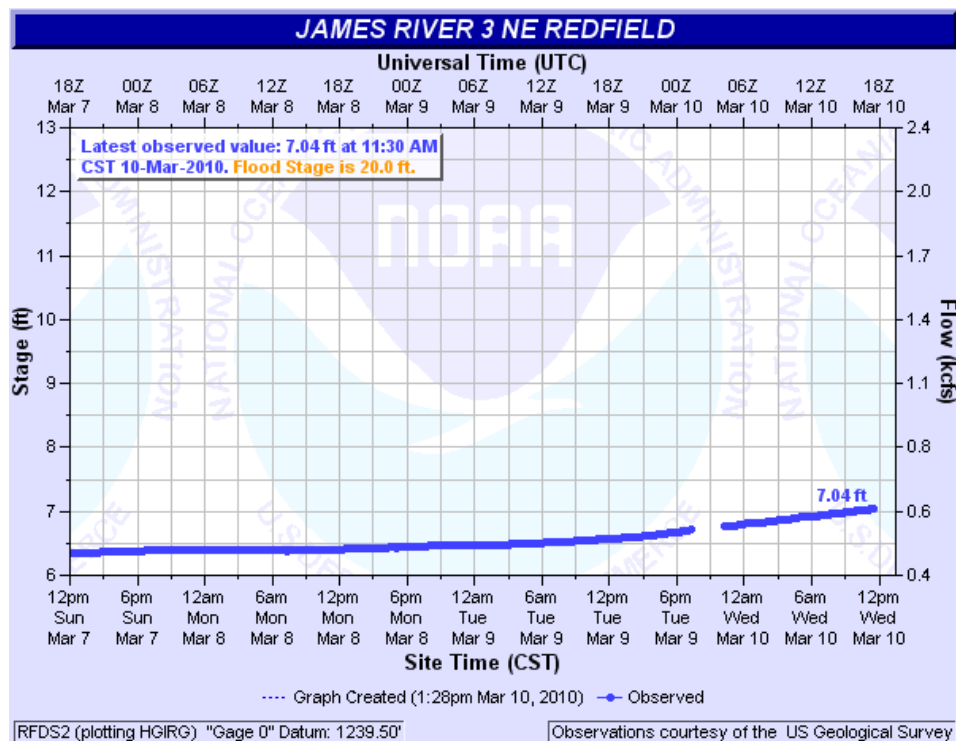
For the latest active warnings and statements for each office serving South Dakota, please see the following links:

Rapid City: [http://ahps2.wrh.noaa.gov/ahps2/ahps\\_warnings.php?wfo=unr](http://ahps2.wrh.noaa.gov/ahps2/ahps_warnings.php?wfo=unr)

Aberdeen: [http://ahps2.wrh.noaa.gov/ahps2/ahps\\_warnings.php?wfo=abr](http://ahps2.wrh.noaa.gov/ahps2/ahps_warnings.php?wfo=abr)

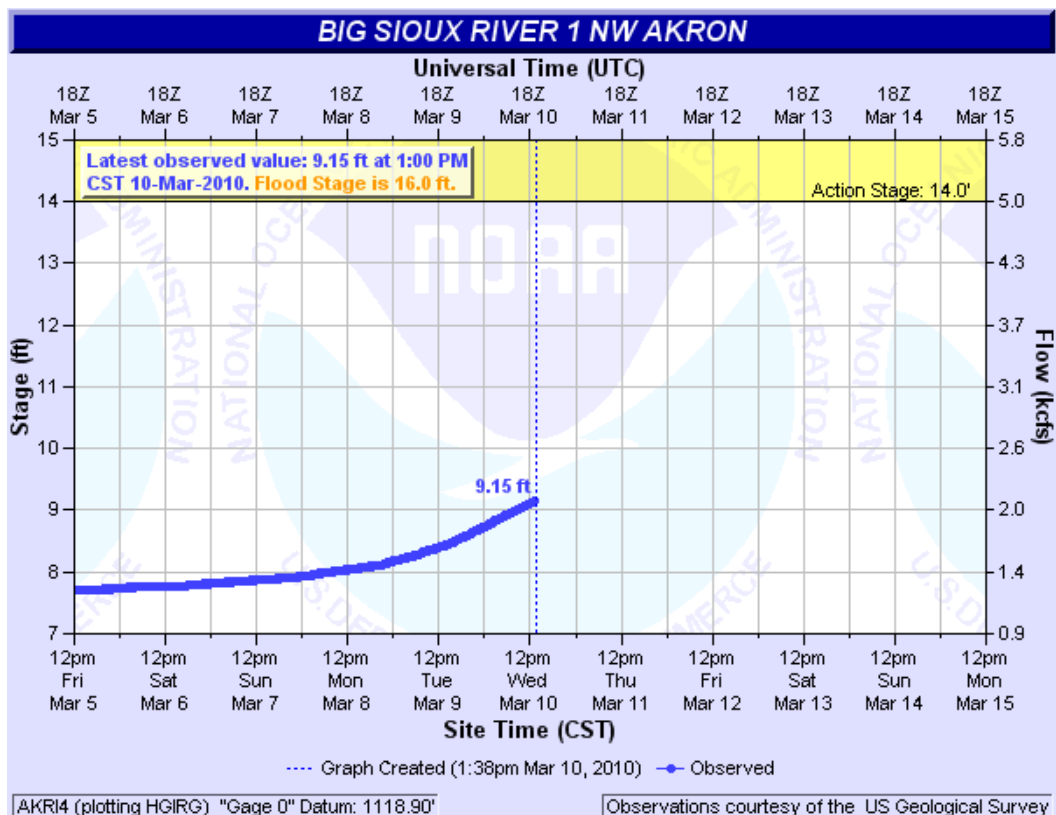
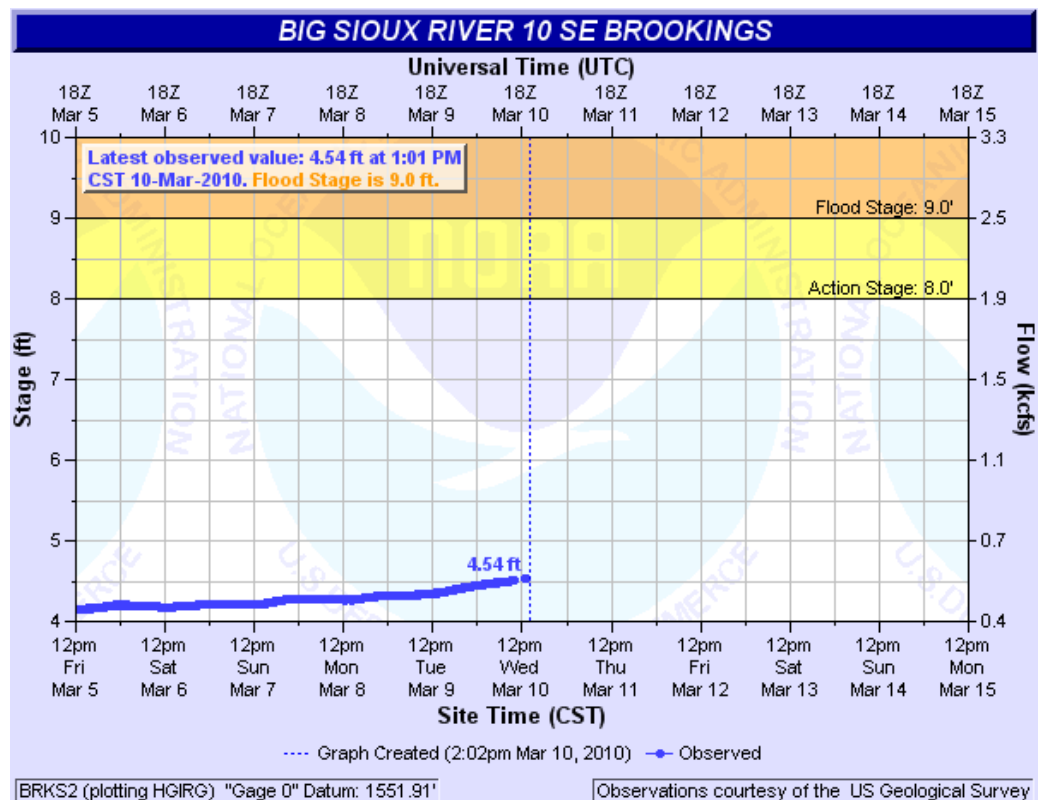
Sioux Falls: [http://ahps2.wrh.noaa.gov/ahps2/ahps\\_warnings.php?wfo=fsd](http://ahps2.wrh.noaa.gov/ahps2/ahps_warnings.php?wfo=fsd)

## James River



Very little runoff has started to reach the James River upstream of Beadle County. Significant rises have started downstream of Beadle County. Moderate flooding is expected within the next one to two weeks from Huron downstream.

## Big Sioux River

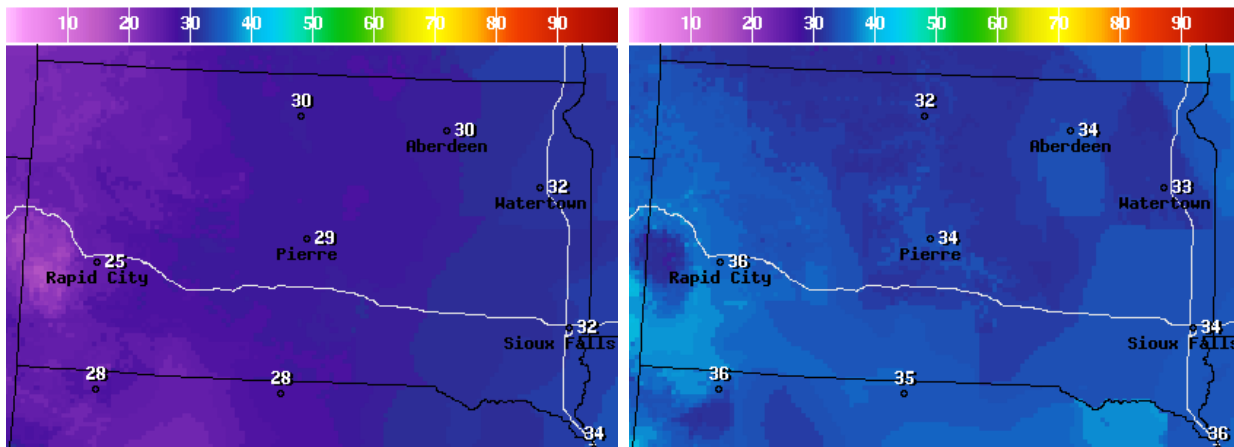


For the Big Sioux River, very little runoff has started reaching the river north of Highway 34. The southern portions of the rivers are starting to show a little larger and faster rises since last night due to the additional rainfall and continued above freezing temperatures.



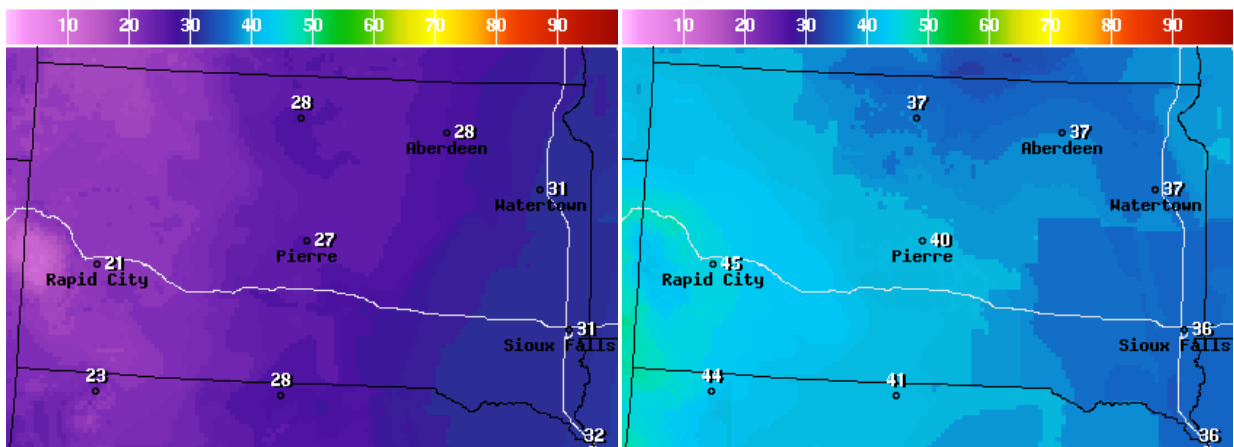
## FORECAST TEMPERATURES AND PRECIPITAITON

High temperatures will warm from the mid 30s on Thursday to the 40s on Saturday. Low temperatures will be in the 20s west to around 30 east tonight through Friday night.



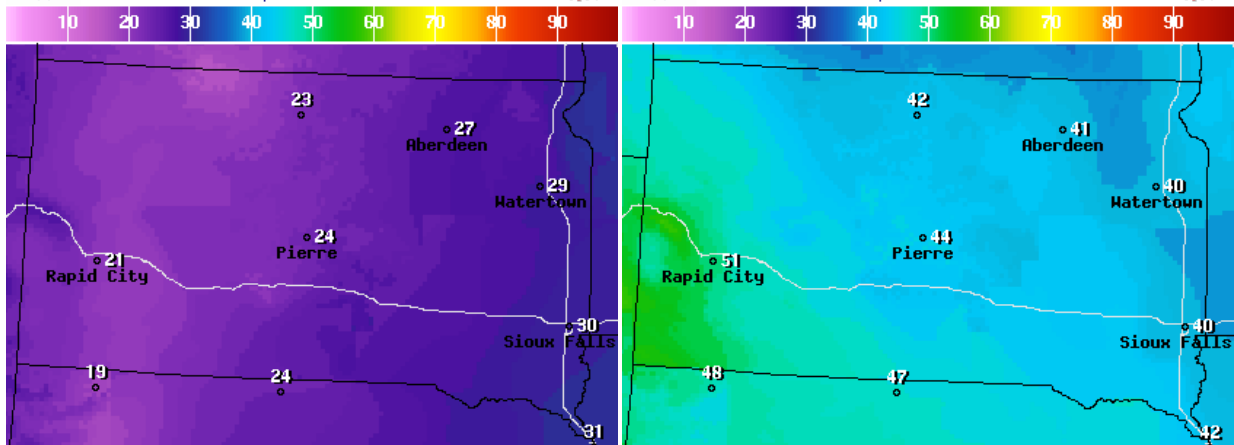
National Digital Forecast Database  
19z issuance Graphic created-Mar 10 2:10PM EST

National Digital Forecast Database  
19z issuance Graphic created-Mar 10 2:10PM EST



National Digital Forecast Database  
19z issuance Graphic created-Mar 10 2:10PM EST

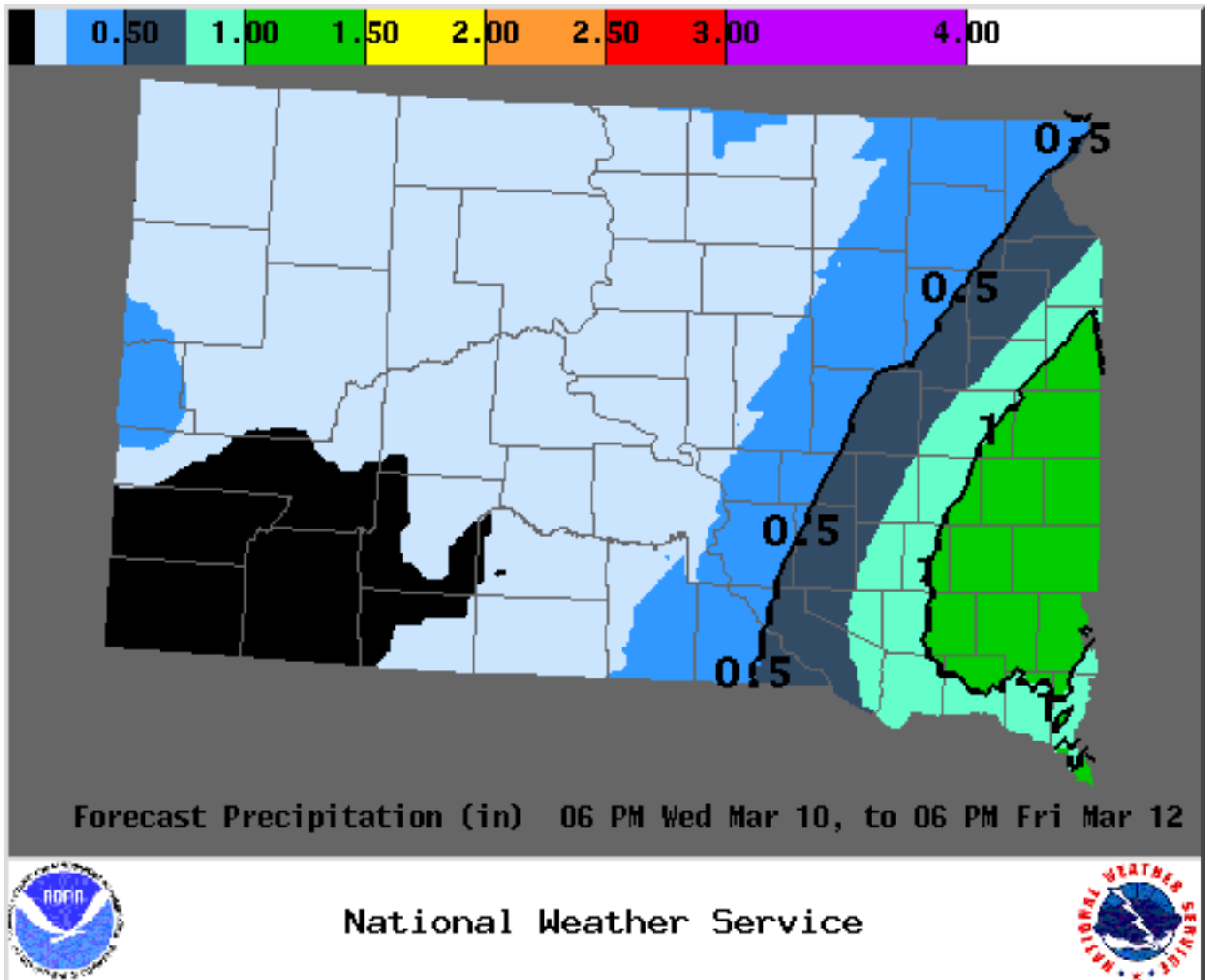
National Digital Forecast Database  
19z issuance Graphic created-Mar 10 2:10PM EST



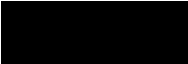







National Digital Forecast Database  
18z issuance Graphic created-Mar 10 1:15PM EST

National Digital Forecast Database  
18z issuance Graphic created-Mar 10 1:14PM EST

Total forecast precipitation for this evening through Friday afternoon shows around 0.50" to 1.25" in the middle and lower James Basin, and for nearly all of the Big Sioux Basin. Less than 0.25" is forecast for the central and western parts of South Dakota. Some of this precipitation will fall as a mixture or combination of rain and snow, except for the far southeast where it should remain as nearly all rain.



#### Key for Total Precipitation Map:

	<0.10": Black		1.50"-2.00": Yellow
	0.10"-0.25": Light Blue		2.00"-2.50": Orange
	0.25"-0.50": Medium Blue		2.50"-3.00": Red
	0.50"-0.75": Dark Blue		3.00"-4.00": Purple
	0.75"-1.00": Light Green		>4.00": White
	1.00"-1.50": Green		



## POTENTIAL RIVER RISES BASED ON MAX/MIN FORECAST RAINFALL THROUGH WEDNESDAY NIGHT

Significant rises are likely on the east-river Streams and Rivers through this weekend. With temperatures remaining above freezing for most of the rest of the week, and additional rainfall of 0.5" to 1.25" that is possible through Friday, the Vermillion and Big Sioux rivers, and their tributaries, will see much larger and faster rises by this weekend and into next week. The most significant rises and possible minor flooding will be on the southern portions of these rivers. The following outlooks do not include any ice effects.

LOCATION	FLOOD STAGE	LATEST STAGE	OBSERVED TIME	RANGE OF LOWEST	POSSIBLE MEDIAN	CRESTS HIGHEST
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### VERMILLION RIVER

DVSS2	11.0	E5.10	WED 7 AM	11.11	12.03	13.41
WKAS2	14.0	E5.40	WED 7 AM	15.47	16.59	17.18
VERS2	21.0	5.60	WED 11 AM	15.56	18.26	22.18

### BIG SIOUX RIVER

BRKS2	9.0	4.51	WED 10 AM	8.45	8.88	9.38
DERS2	12.0	5.39	WED 11 AM	9.05	10.07	11.22
SFLS2	12.0	E3.80	WED 7 AM	8.66	9.48	10.39
SXFS2	16.0	6.55	WED 11 AM	11.94	13.52	15.29
HAWI4	15.0	E3.00	WED 7 AM	14.44	15.33	17.02
AKRI4	16.0	9.08	WED 11 AM	15.33	16.57	18.03

### LITTLE SIOUX RIVER

SPWI4	10.0	7.00	WED 8 AM	12.71	13.23	13.96
LNNI4	18.0	16.29	WED 11 AM	18.30	18.85	19.76
CHKI4	17.0	E6.80	WED 7 AM	15.69	17.74	19.53

The text for the latest Hydrologic Outlook can be found at:

<http://www.weather.gov/water/textprods/view.php?wfo=fsd&prod=ESF>

In addition to potential flooding on area rivers and streams, more widespread area flooding and ponding of water in fields and yards is likely to increase through this weekend as snowmelt and runoff continue. Stay tuned for possible flood advisories that might be necessary as we get closer to the weekend.